New Source and Grandfathered Project Reductions
Special Conditions 7 & 8

Special Conditions 7 & 8

- Require additional reductions on "new sources" that initiate construction after July 1, 2009 and exceed an average land cover condition of 16% for the design of post-development stormwater management facilities
- State Average Land Cover Condition of 16% established through VSMP regulations
  - Equivalent to a loading of .45 lbs P/ac/yr
- Localities were permitted to adopt an average land cover condition >16%
- If projects have exceeded this land cover condition, additional reductions MAY be required

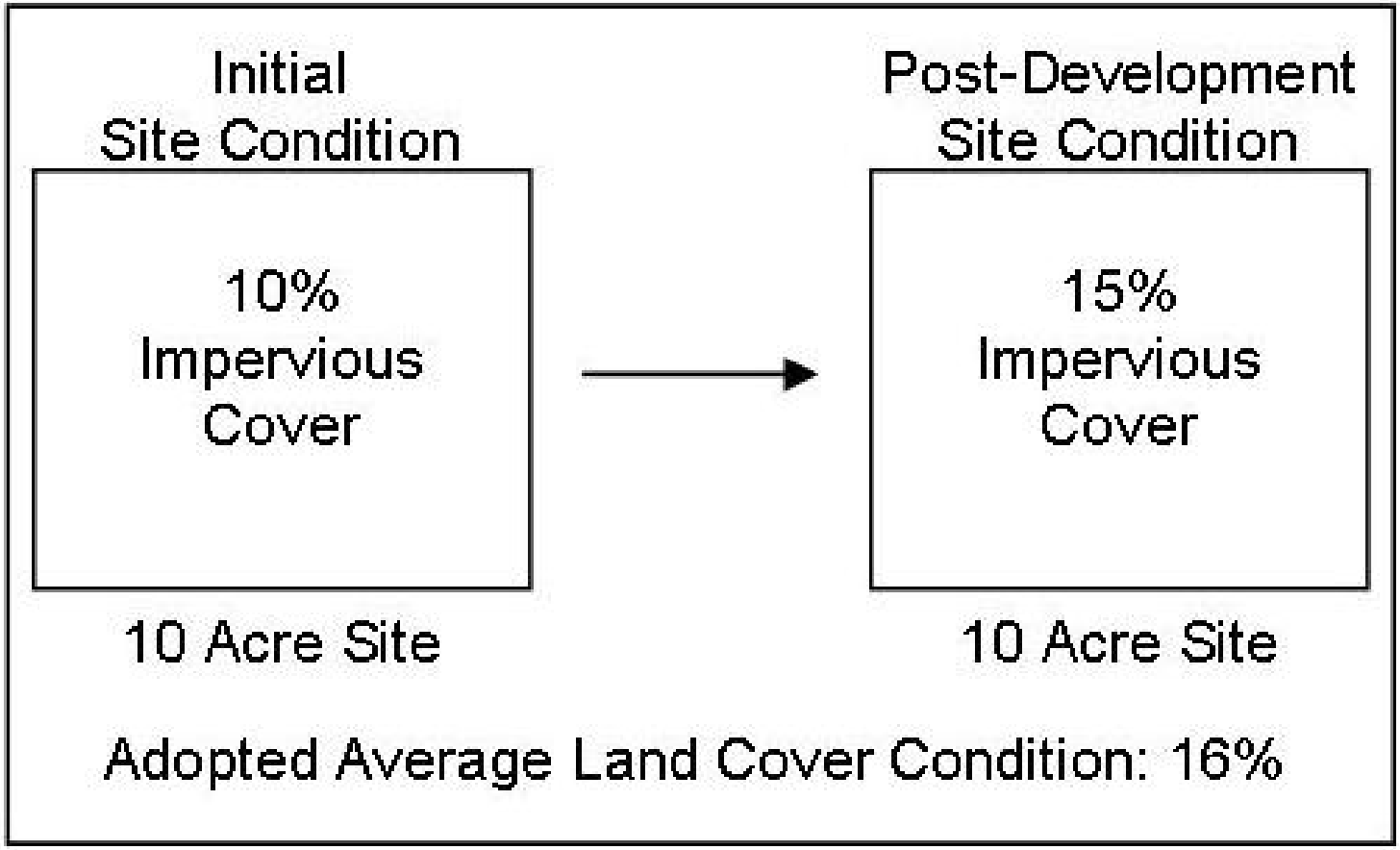
Special Condition 7

- Applies to projects that:
  1. Initiate construction between July 1, 2009 and June 30 2014
  2. Disturb one acre or greater
  3. Have utilized an average land cover condition >16% for the design of post-development stormwater management facilities
  4. Result in an increased POC load
- Offset 5% of the increased load during this permit cycle for these project

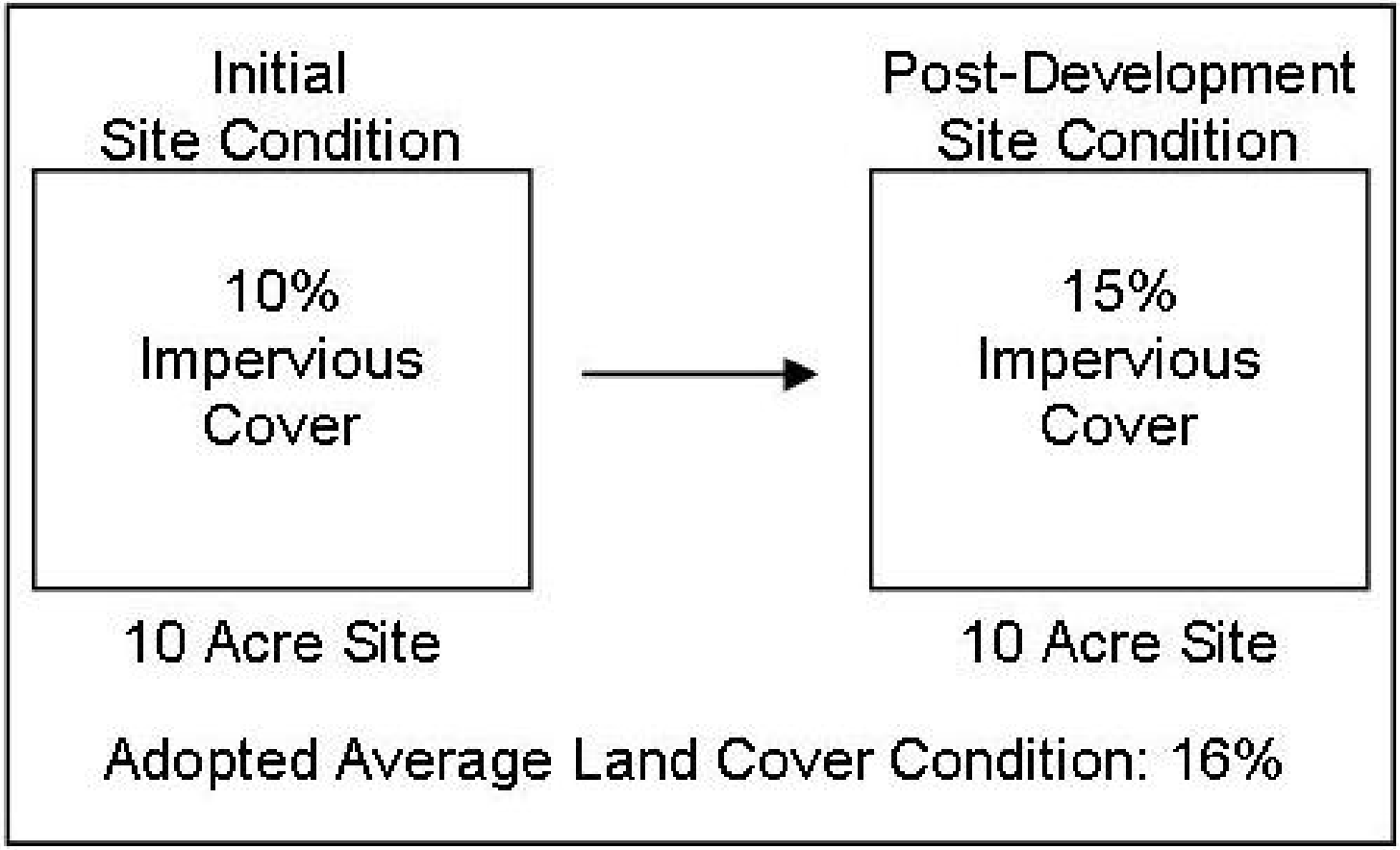
Special Condition 8

- Applies to projects that:
  1. Are grandfathered in accordance with 9VAC25-870-48
  2. Disturb one acre or greater
  3. Have utilized an average land cover condition >16% for the design of post-development stormwater management facilities
  4. Result in an increased POC load
- Offset entire increased load by project completion

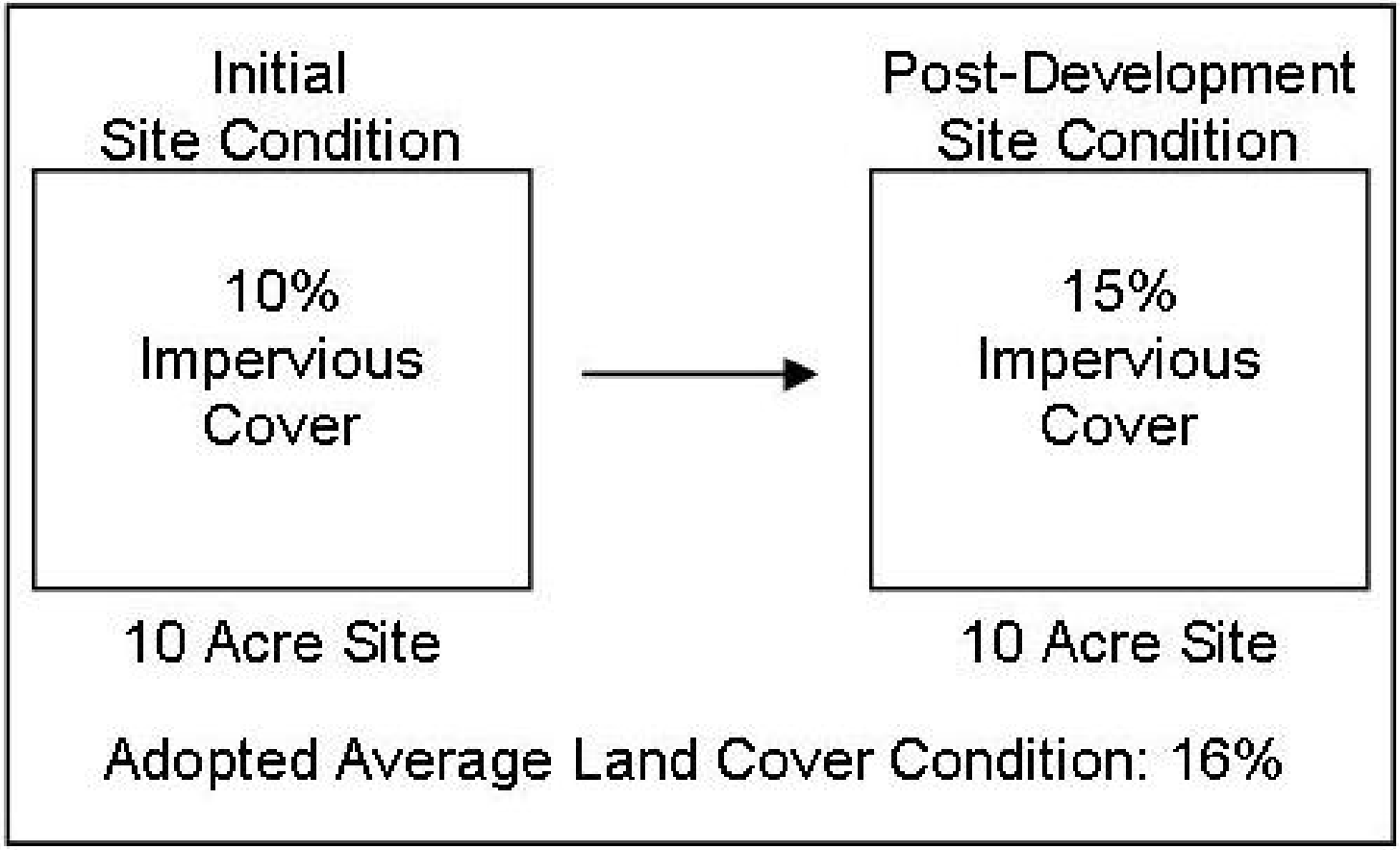
Additional Reductions Required?



Additional Reductions Required? NO!

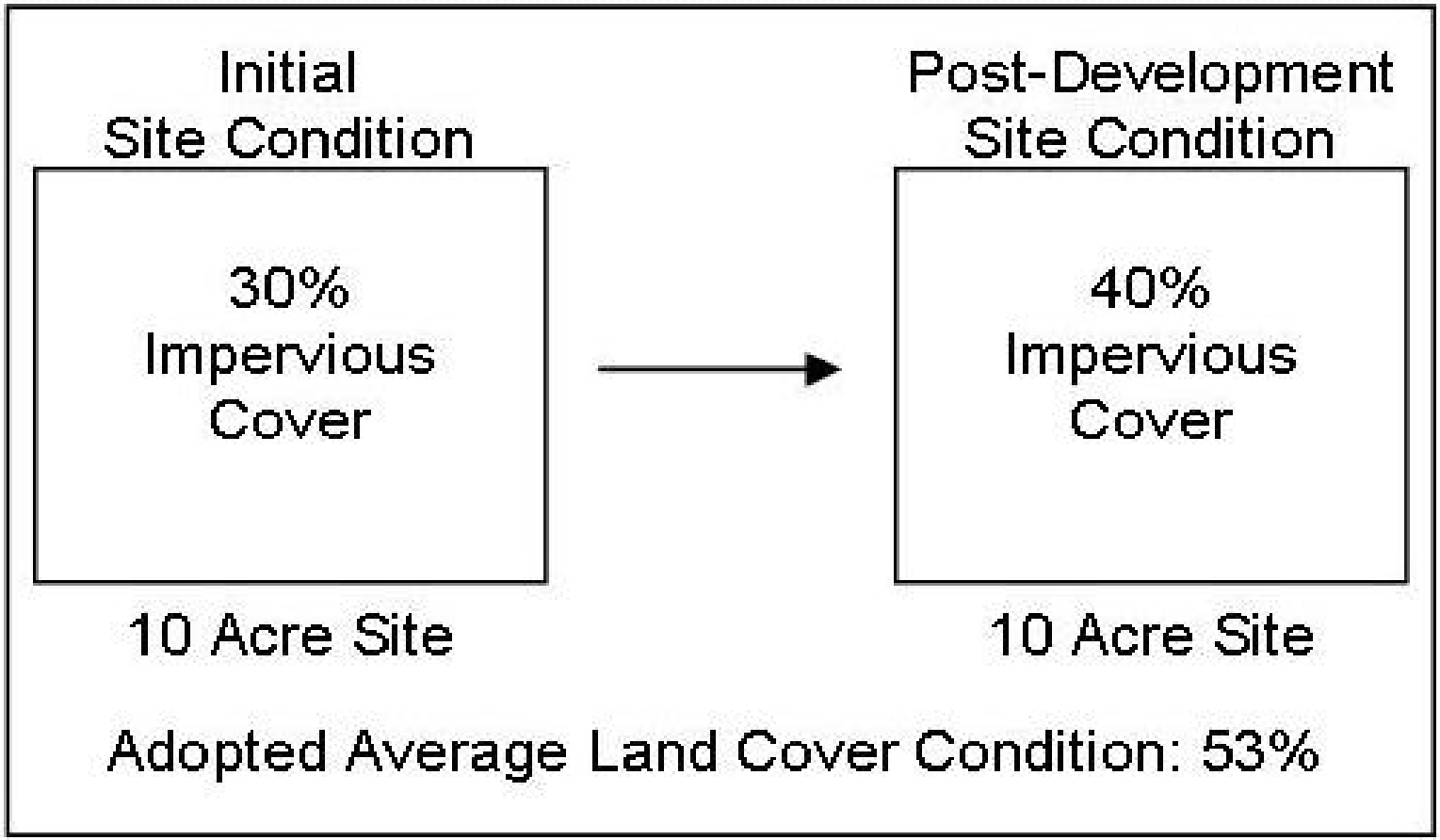


Additional Reductions Required? NO!

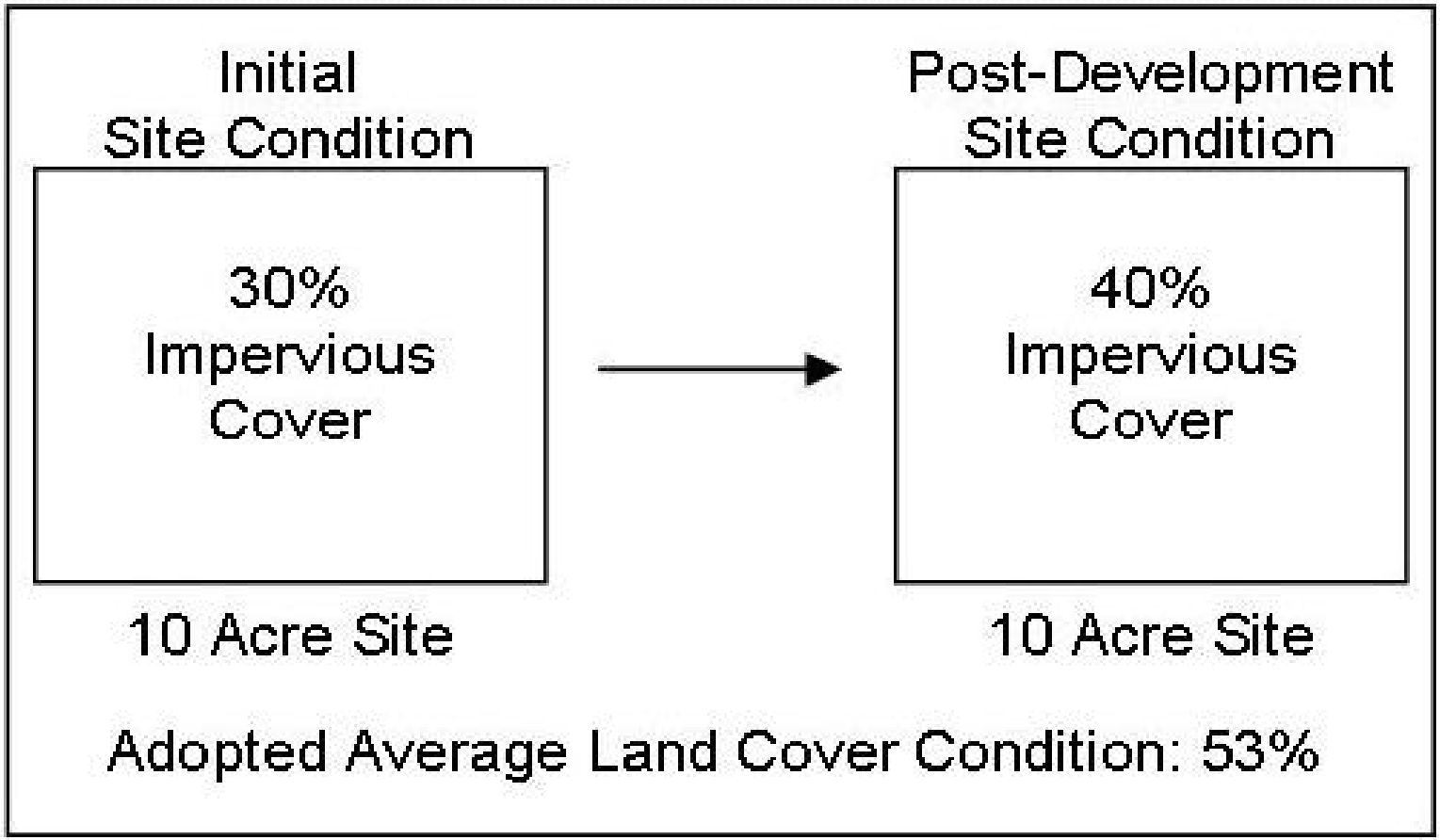


Although there is an increase in POC loads, the project does not exceed an average land cover condition of 16%

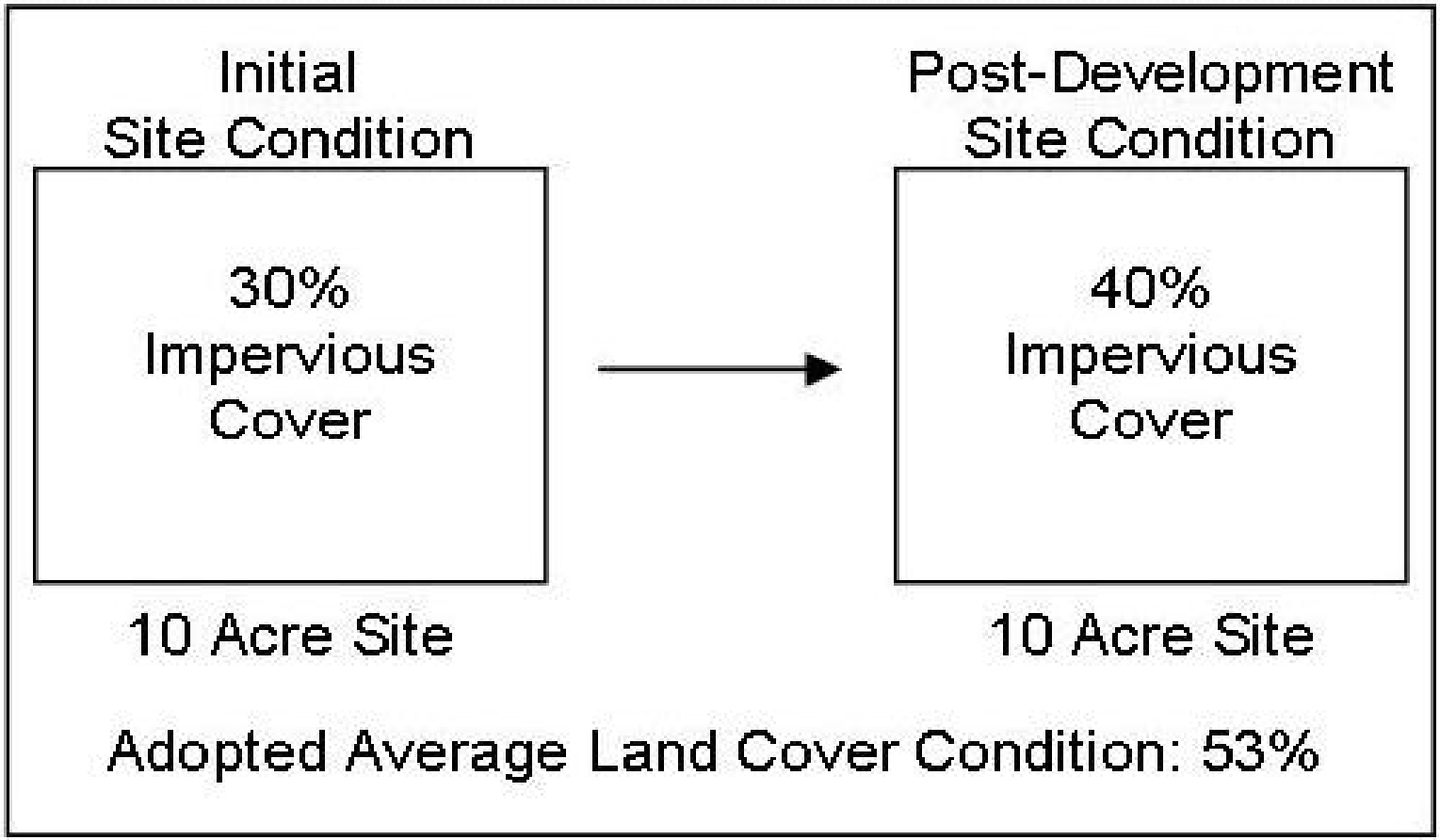
Additional Reductions Required?



Additional Reductions Required? YES!

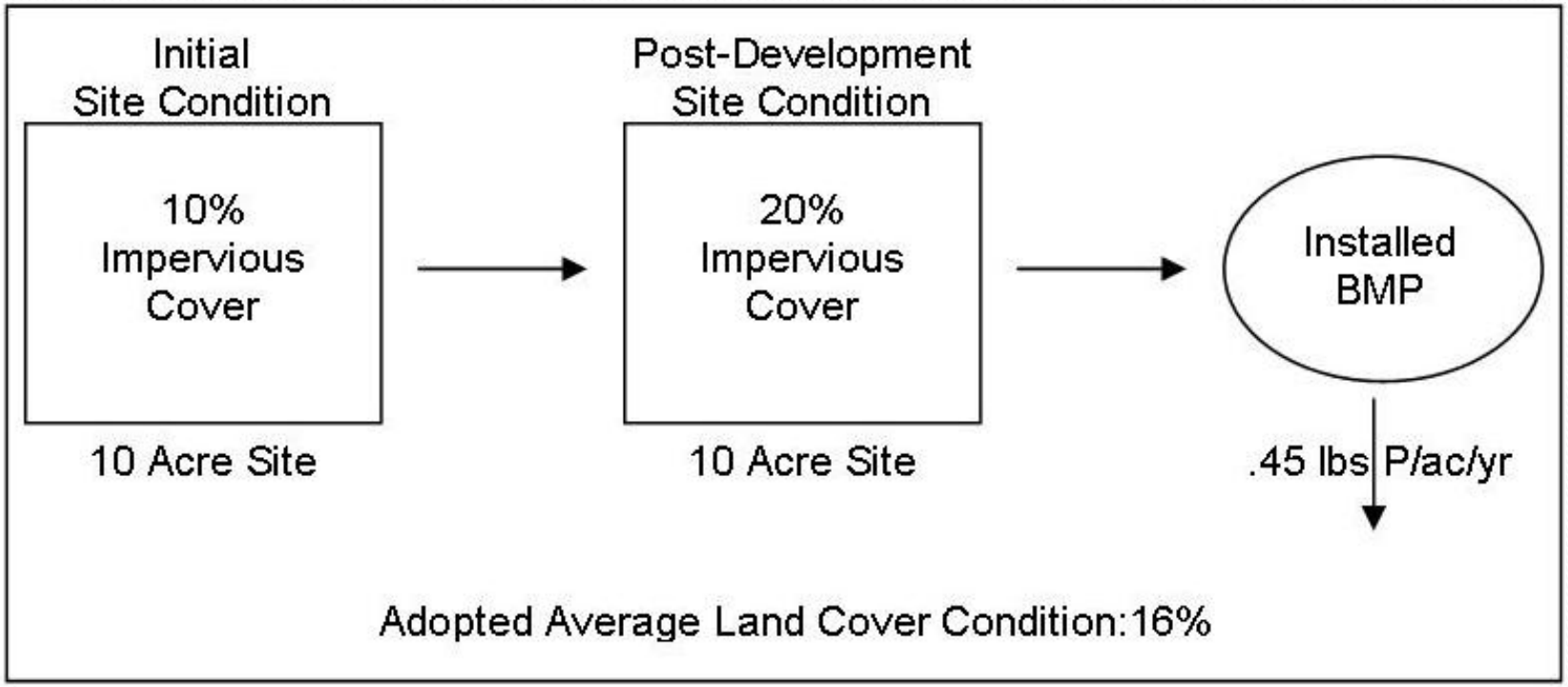


Additional Reductions Required? YES!

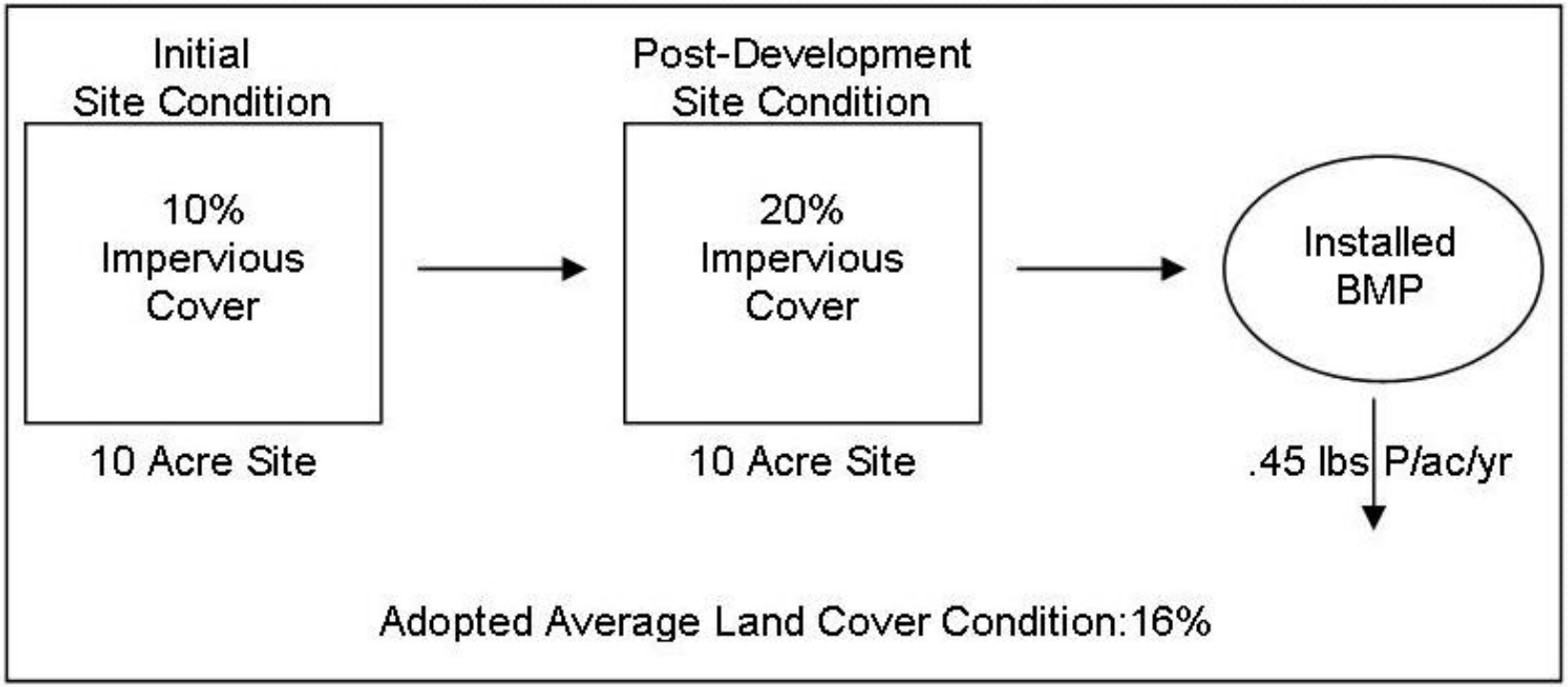


The project results in average land cover condition that exceeds 16%. Additional reductions are required under the special condition.

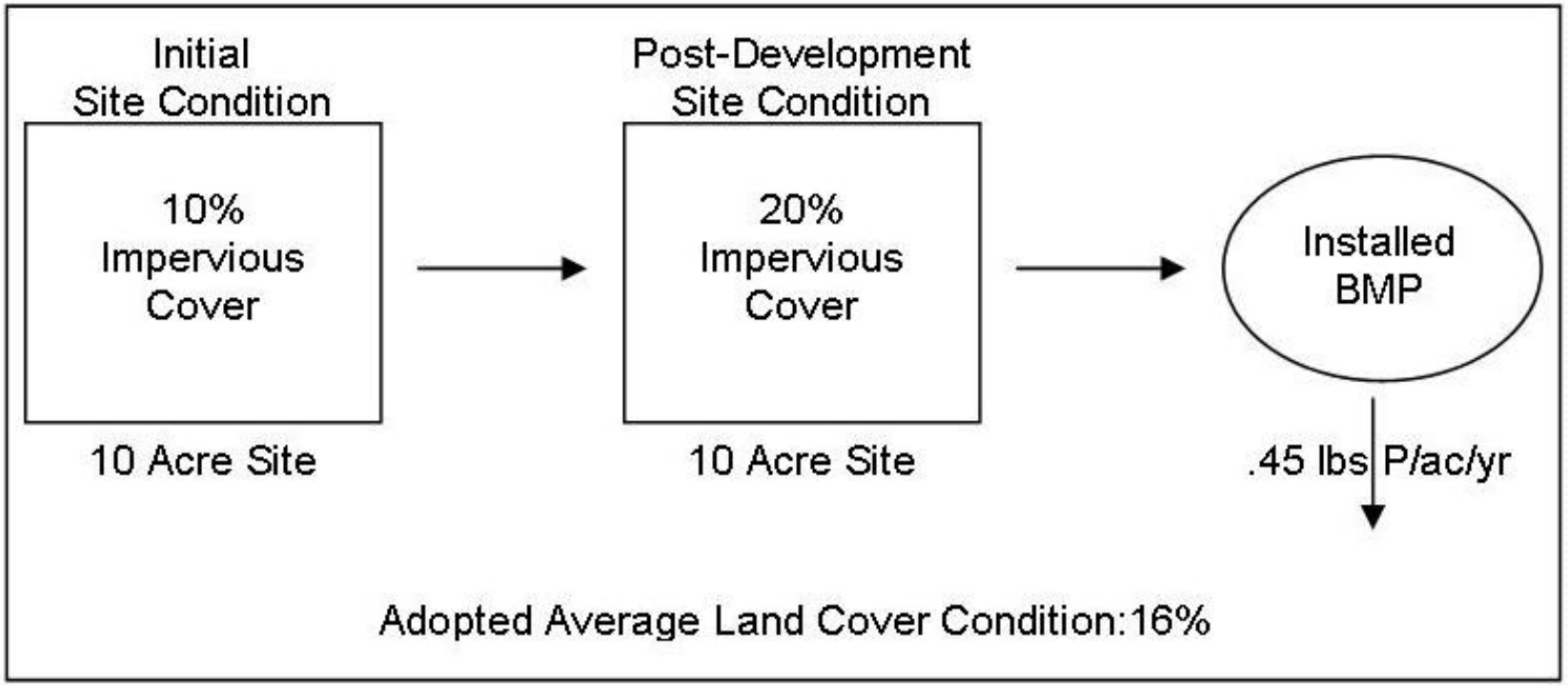
Additional Reductions Required?



Additional Reductions Required? NO!

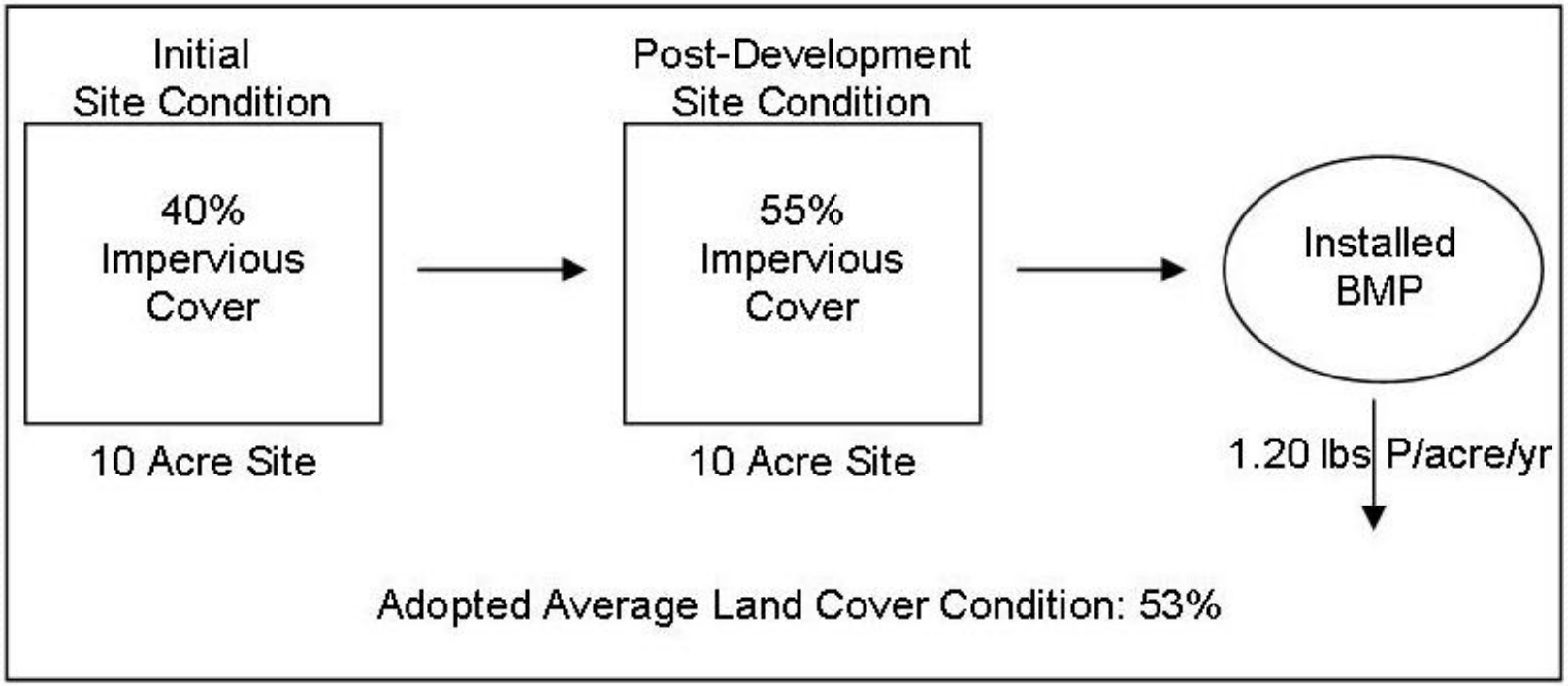


Additional Reductions Required? NO!

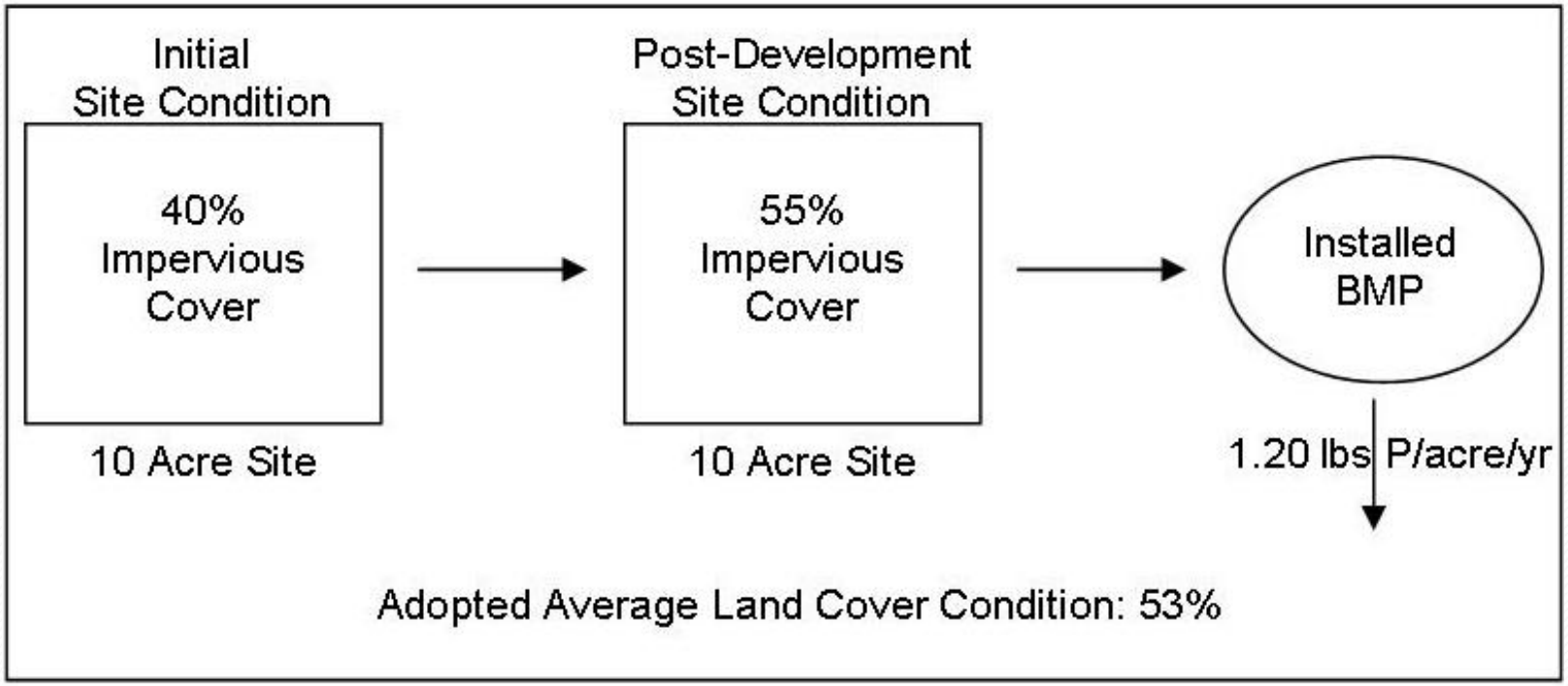


Although the project results in an average impervious land cover condition of 20%, a BMP is installed that reduces the pollutant load to the equivalent of an average land cover condition of 16%

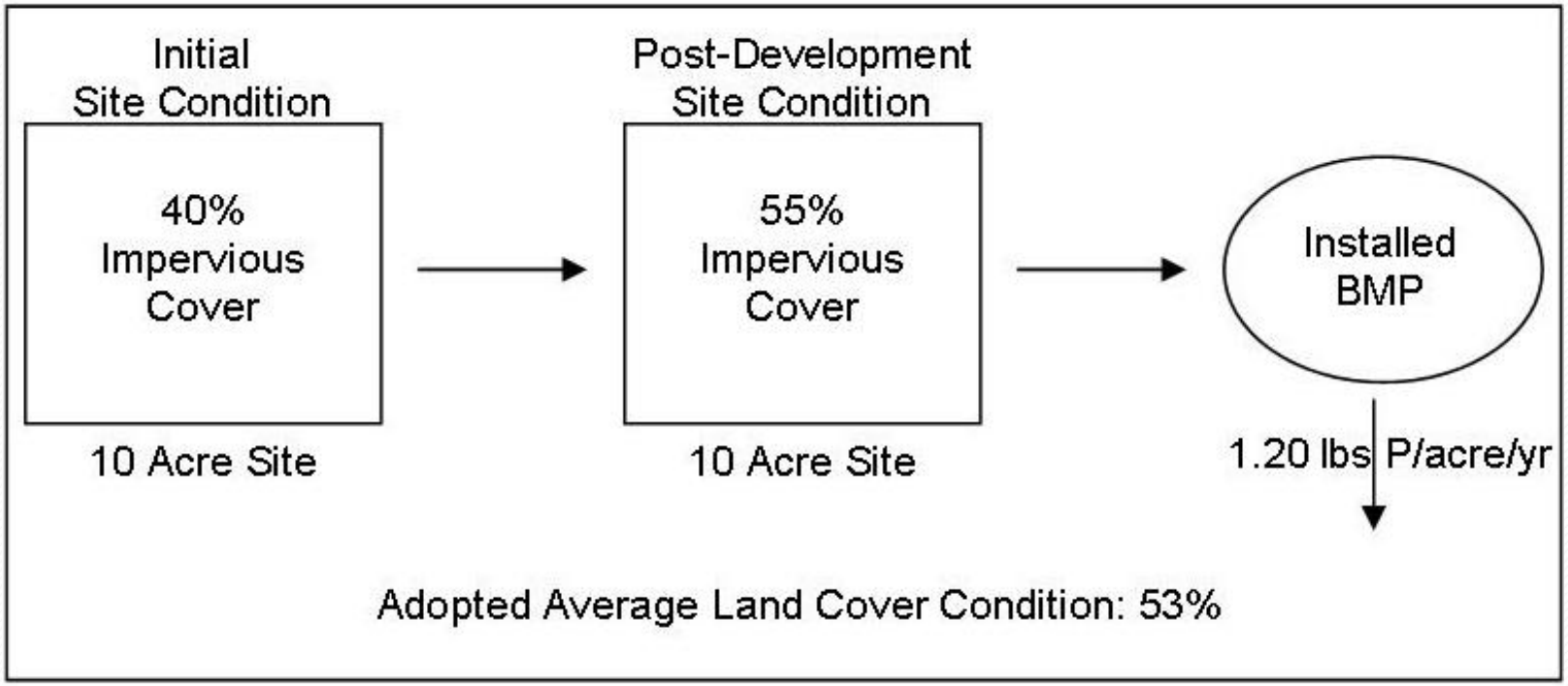
Additional Reductions Required?



Additional Reductions Required? YES!

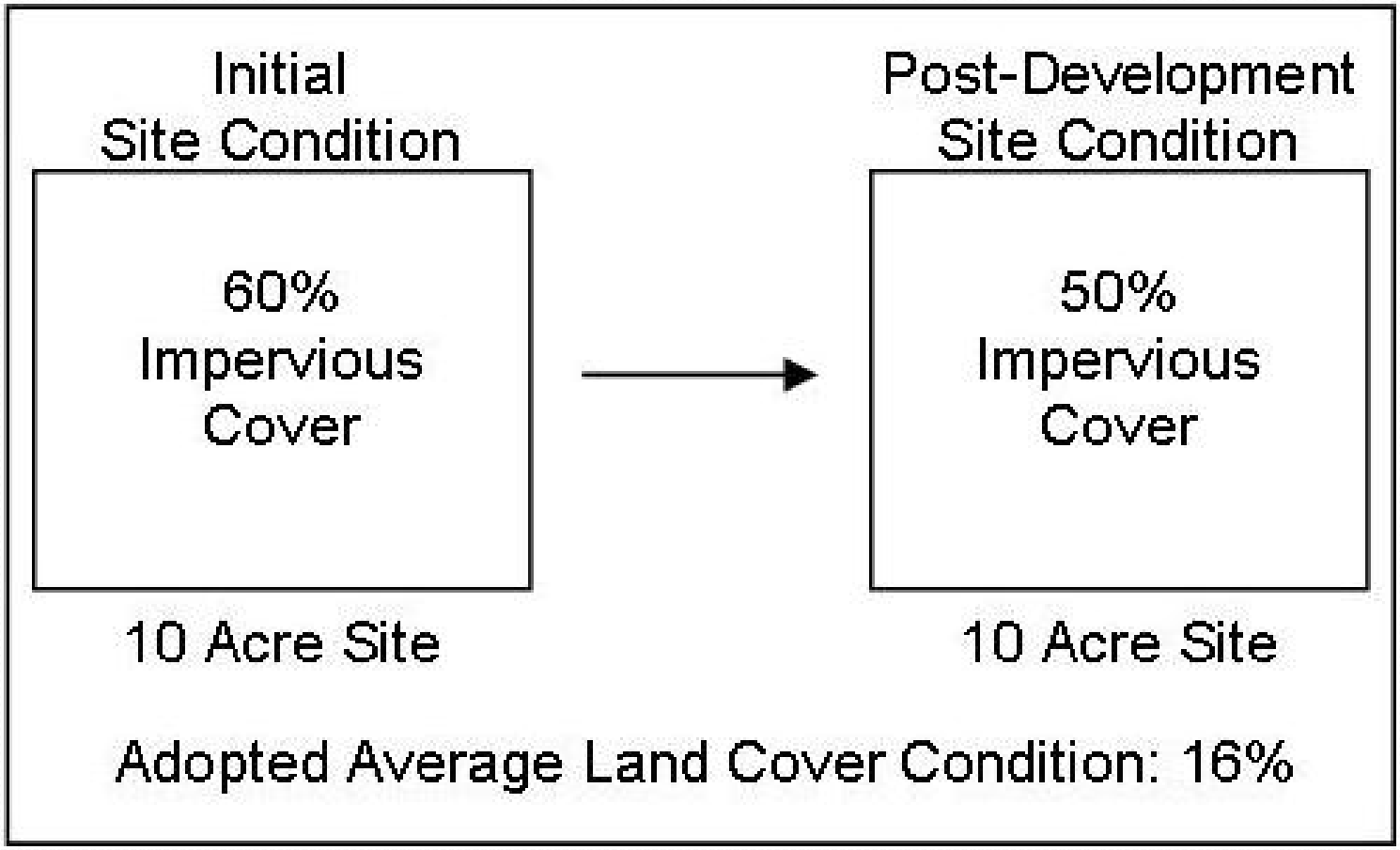


Additional Reductions Required? YES!

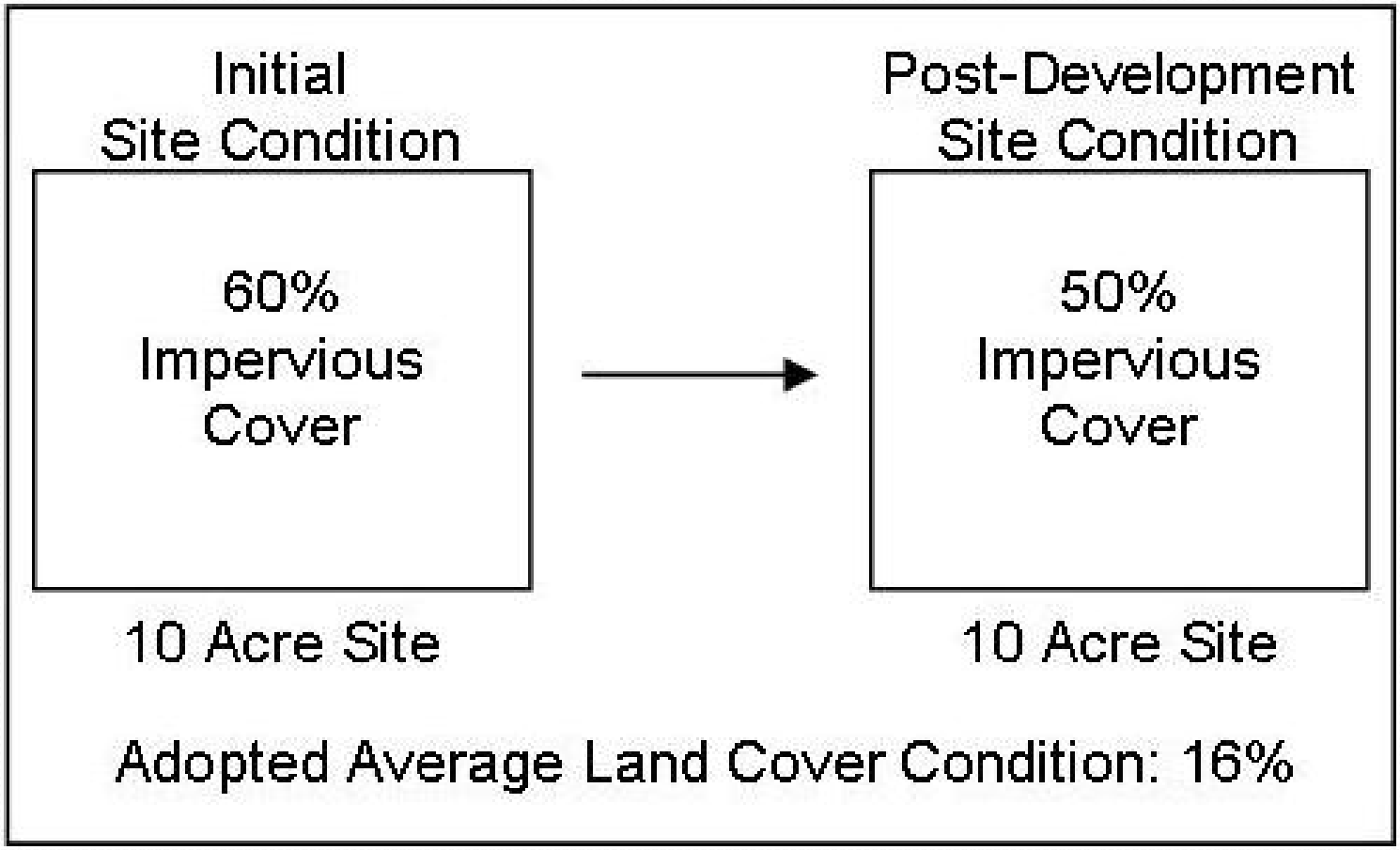


A BMP is installed to reduce the pollutant load to the equivalent of the permittee's adopted average land cover condition of 53%. However, this is >16%, so the increase in POCs must be offset (55% - 40%)

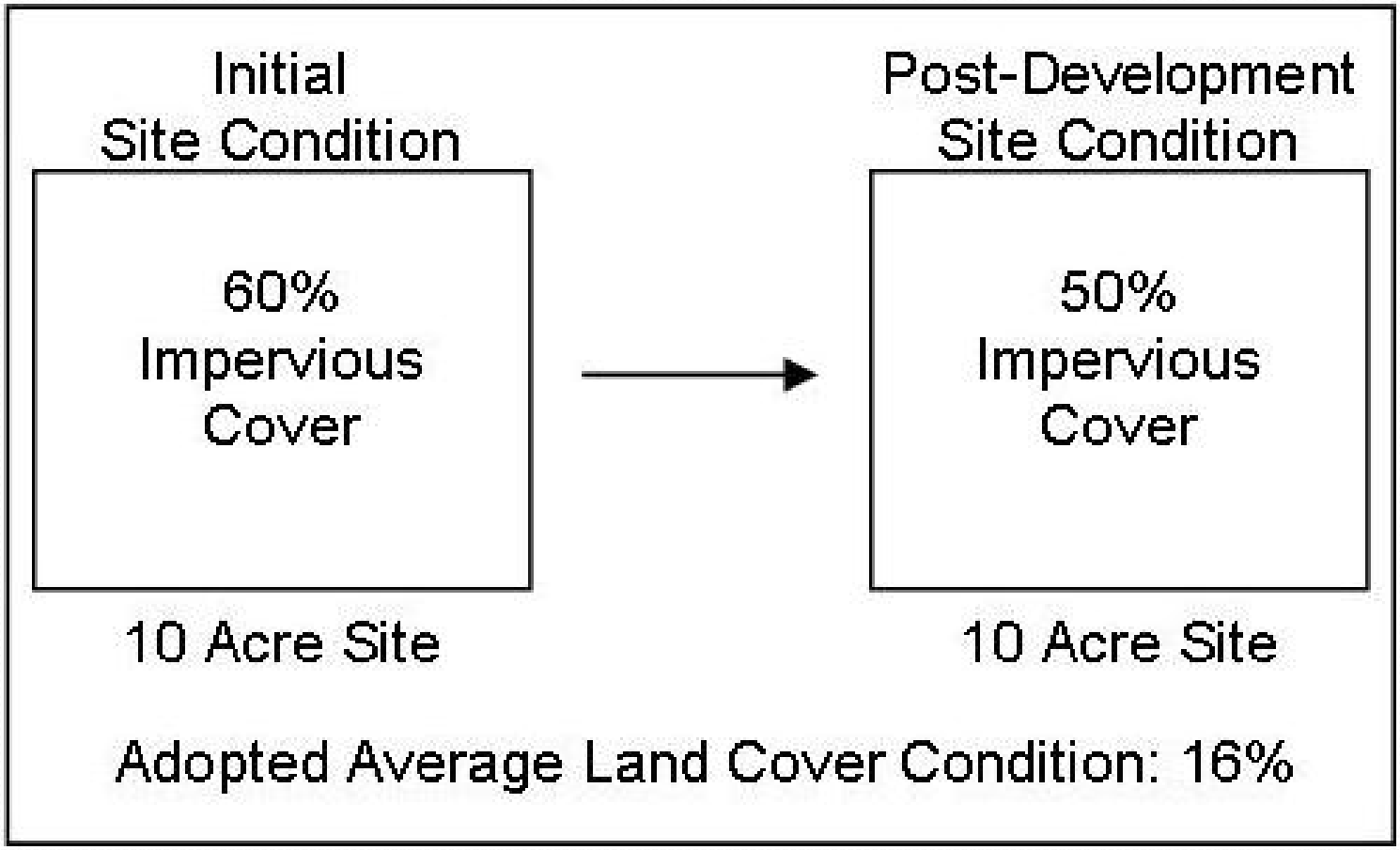
Additional Reductions Required?



Additional Reductions Required? NO!

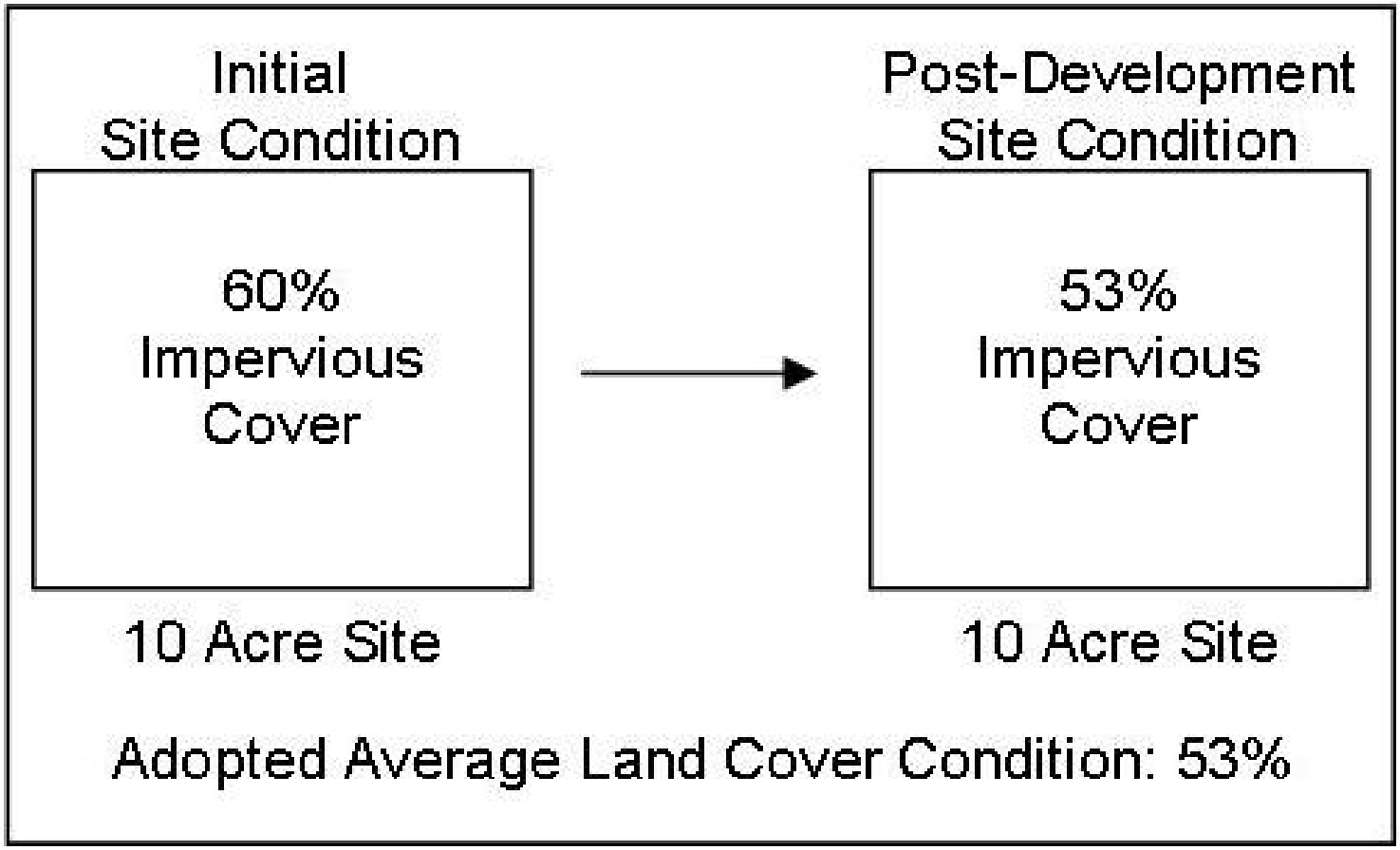


Additional Reductions Required? NO!

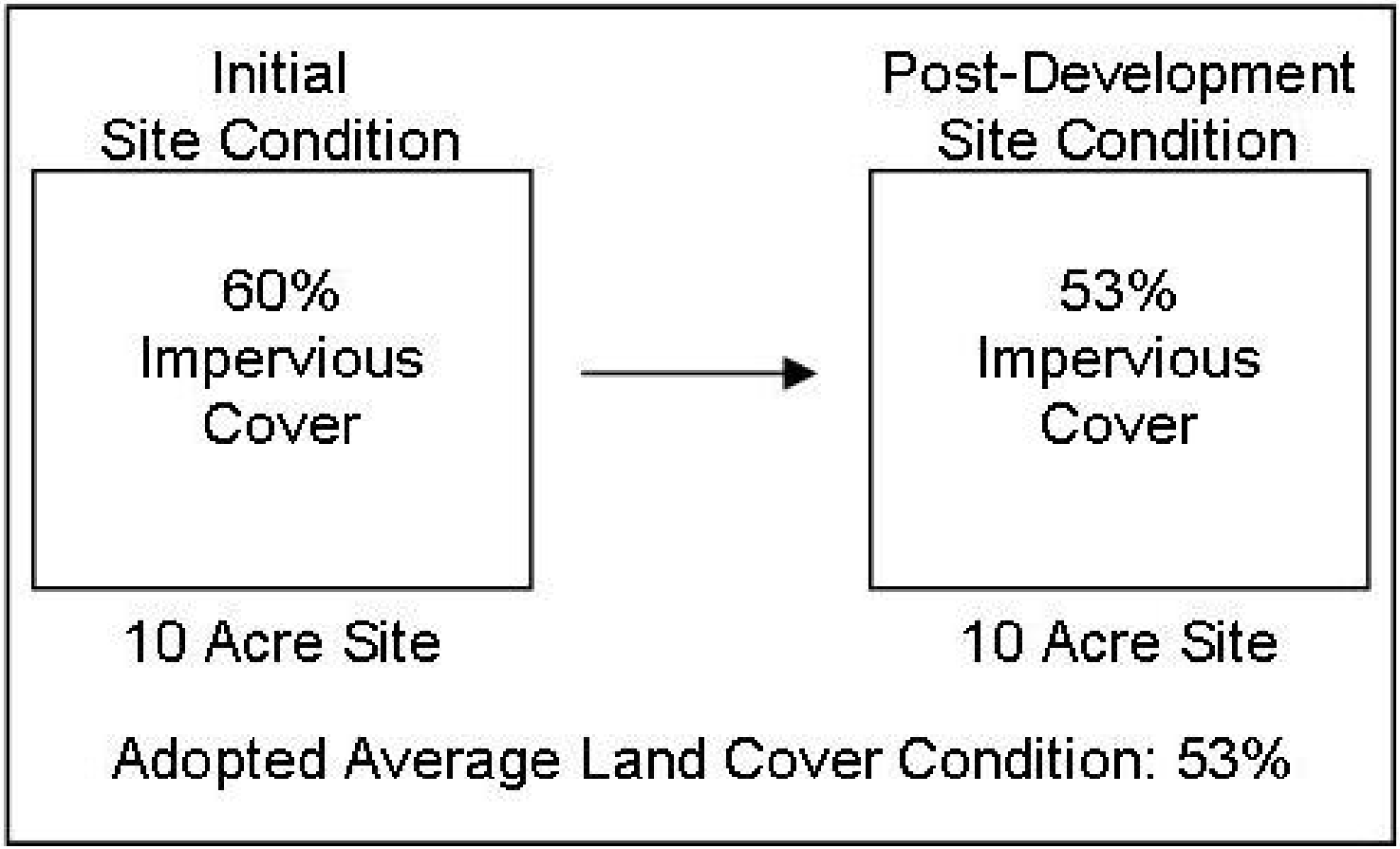


The project results in a reduction of impervious cover and associated POCs. The permittee may take credit for those reductions.

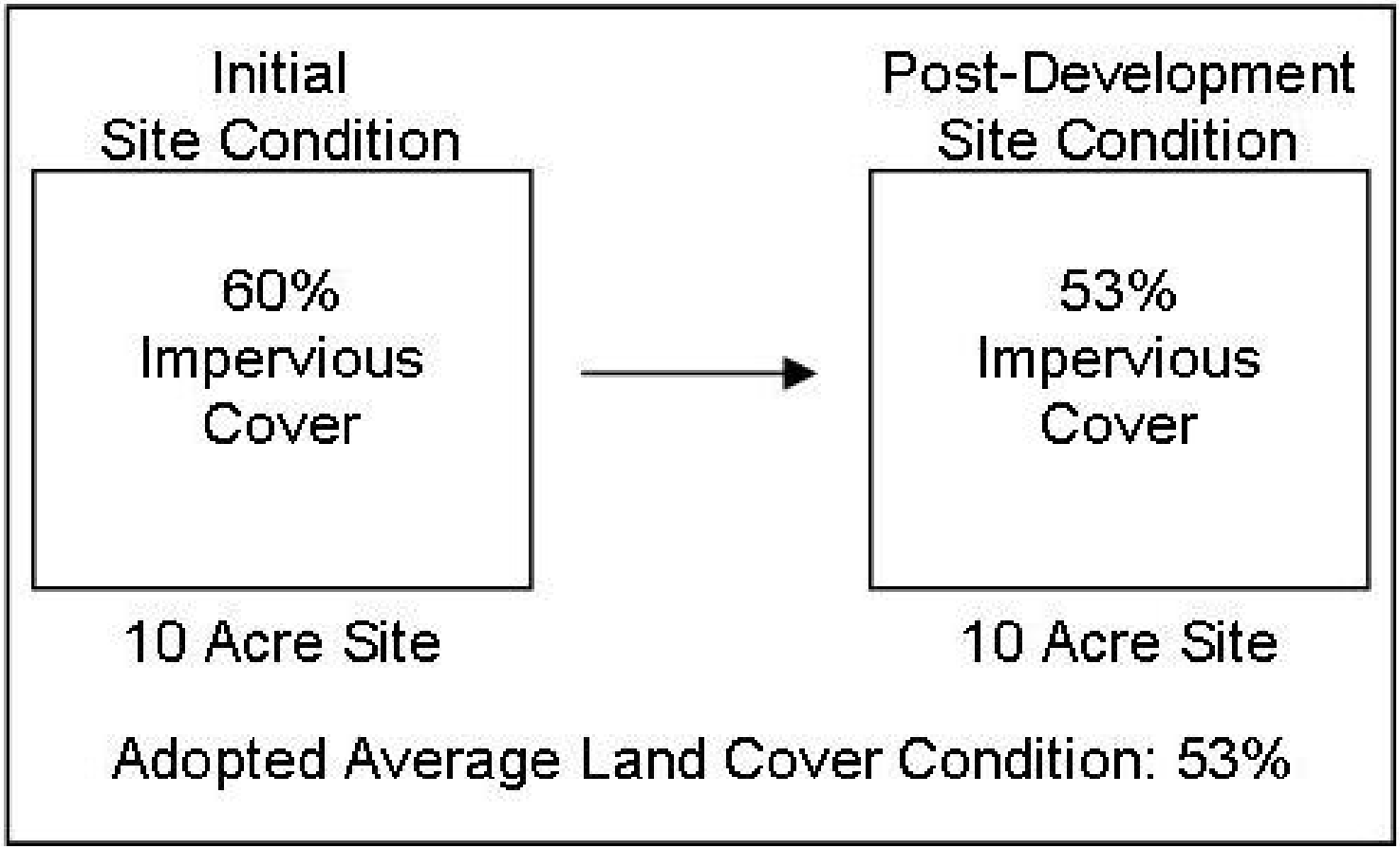
Additional Reductions Required?



Additional Reductions Required? NO!



Additional Reductions Required? NO!



The project results in a reduction of impervious cover and associated POCs. The permittee may take credit for those reductions.

Meeting Special Conditions 7 Aggregate Approach

- Permittees may take an aggregate, or holistic, approach to meeting Special Condition 7 using land use data to determine changes in impervious and pervious cover between June 30, 2009 and July 1, 2014
  - May overestimate necessary reductions
  - Simplifies accounting process
- This approach cannot be used to meet Special Condition 8

Aggregate Accounting - Example

- Permittee in the James River Basin, with 1000 acres of regulated pervious urban acres and regulated impervious urban acres, uses GIS to determine land use cover as of June 30, 2009 AND as of July 1, 2014
  - June 30, 2009: 500 impervious acres, 500 pervious acres
  - July 1, 2014: 600 impervious acres, 400 pervious acres

POC Loads as of June 30, 2009

Subsource	Pollutant	Total Existing Acres Served by MS4 as of 06/30/09	2009 EOS Loading Rate (lbs/acre)	Estimated Total POC Load as of 06/30/09
Regulated Urban Impervious	Nitrogen	*500*	9.39	*4695*
Regulated Urban Pervious		*500*	6.99	*3495*
Regulated Urban Impervious	Phosphorus	*500*	1.76	*880*
Regulated Urban Pervious		*500*	0.5	*250*
Regulated Urban Impervious	Total Suspended Solids	*500*	676.94	*338,470*
Regulated Urban Pervious		*500*	101.08	*50,540*

POC Loads as of July 01, 2014

Subsource	Pollutant	Total Existing Acres Served by MS4 as of 07/01/14	2009 EOS Loading Rate (lbs/acre)	Estimated Total POC Load as of 07/01/14
Regulated Urban Impervious	Nitrogen	*600*	9.39	*5634*
Regulated Urban Pervious		*400*	6.99	*2796*
Regulated Urban Impervious	Phosphorus	*600*	1.76	*1056*
Regulated Urban Pervious		*400*	0.5	*200*
Regulated Urban Impervious	Total Suspended Solids	*600*	676.94	*406,164*
Regulated Urban Pervious		*400*	101.08	*40,432*

Total Load Change from "New Sources" between 06/03/09 and 07/01/14

Subsource	Pollutant	Estimated Total POC Load as of 07/01/14 (lbs/yr	Estimate Total POC Load as of 06/30/09 (lbs/yr)	Load Change (lbs/yr)	Total Load Change (lbs/yr)
Regulated Urban Impervious	Nitrogen	*5634*	*4695*	939	
Regulated Urban Pervious		*2796*	*3495*	-699	240
Regulated Urban Impervious	Phosphorus	*1056*	*880*	176	
Regulated Urban Pervious		*200*	*250*	-50	126
Regulated Urban Impervious	Total Suspended Solids	*406,164*	*338,470*	67,694	
Regulated Urban Pervious		*40,432*	*50,540*	-10,108	57,586

Net Load Change (Total Land Change – Reductions from implemented BMPs)

Pollutant	Total Load Change (lbs/yr)	Reductions from on-site BMPs (lbs/yr)	Net Load Change (lbs/yr)
Nitrogen	240	100	140
Phosphorus	126	25	101
Total Suspended Solids	57,586	20,000	37,586

Additional Reductions Required during first permit cycle

Pollutant	Net Load Change (lbs/yr)	Required Reduction during first permit cycle	Additional Reduction Required during first permit cycle (lbs/yr)
Nitrogen	140	0.05	7
Phosphorus	101	0.05	5.05
Total Suspended Solids	37,586	0.05	1,879.3

Credit Potential (Redevelopment)

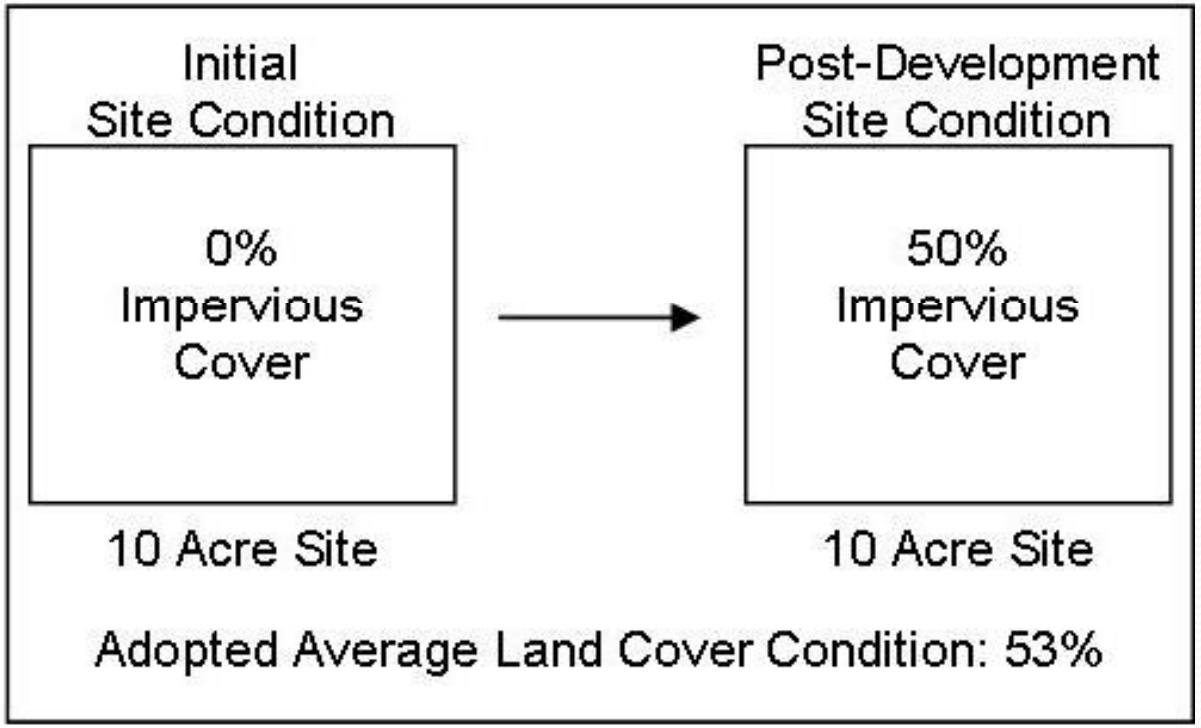
- If a “new source” is a redevelopment project that results in a DECREASE in POCs, permittees may apply those reductions towards meeting the required reductions.

Meeting Special Condition 7 & 8 Site by Site Accounting

- Should be used for Special Condition 8; may be used for Special Condition 7.

Site by Site Example

- Construction initiated between June 30, 2009 and July 1, 2014



- The post-development land use cover condition has an associated total loading of 1.14 lbs TP/ac/yr

Calculating Necessary P reductions for the site

Loading rate difference:

1.14 lbs TP/ac/yr - 0.45 lbs TP/ac/yr = 0.69 lbs TP/ac/yr

Additional load offset during this permit cycle:

0.69 lbs TP *.05 = 0.0345 lbs TP/ac/yr

Additional load offset for this site:

10 acre site * 0.0345 lbs TP/ac/yr = 0.345 lbs TP/yr

Calculating TSS and TN Reductions

Special Condition Table 4

Ratio of Phosphorous to Other POCs (Based on All Land Uses 2009 Progress Run)	Phosphorous Loading Rate (lbs/ac)	Nitrogen Loading Rate (lbs/ac)	Total Suspended Solids Loading Rate (lbs/ac)
James River Basin	1.0	5.2	420.9

TN:

.0345 lbs TP/ac/yr * 5.2 lbs TN/ac = 0.179 lbs TN/ac/yr

0.179 lbs TN/ac/yr * 10 acres = 1.79 lbs TN/yr

TSS

.0345 lbs TP/ac/yr * 420.9 lbs TSS/ac = 14.251 lbs TSS/ac/yr

14.5211 lbs TSS/ac/yr * 10 acres = 145.21 lbs TSS/yr

Reductions from the project

- For this project, the permittee's must offset an additional:
  - .345 lbs TP/yr
  - 1.79 lbs TN/yr
  - 145.21 lbs TSS/yr